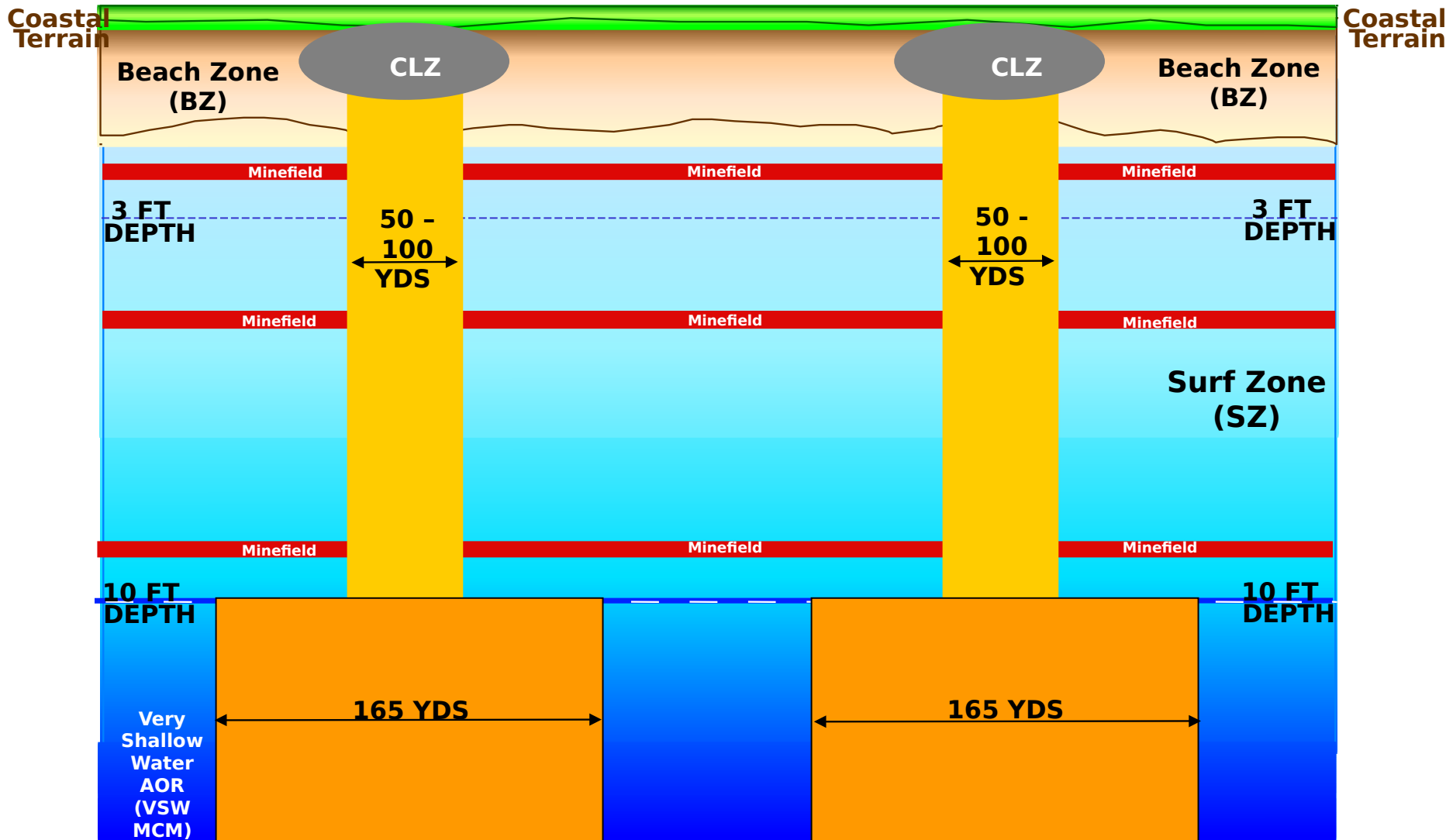
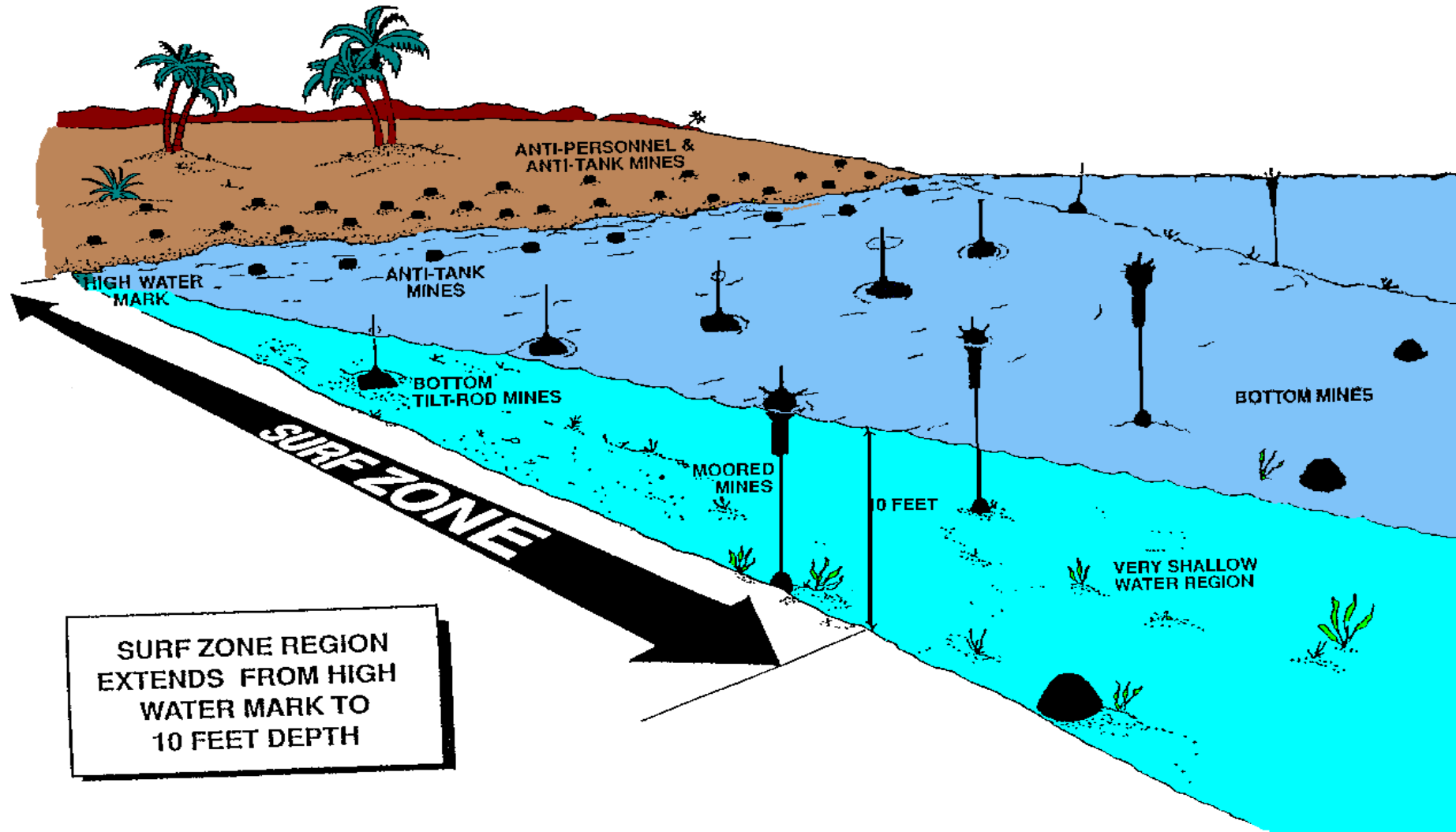


# Assault Breaching Near-Term Geometry



# Surf Zone and Beach Zone



# **Example of Mines and Lightweight Obstacles**

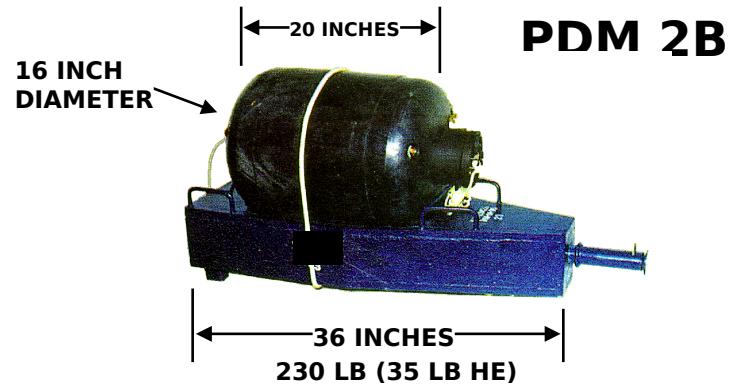
**(Kuwait City Beach - Jan 91)**



# More Examples



# Example Surf Zone Mines

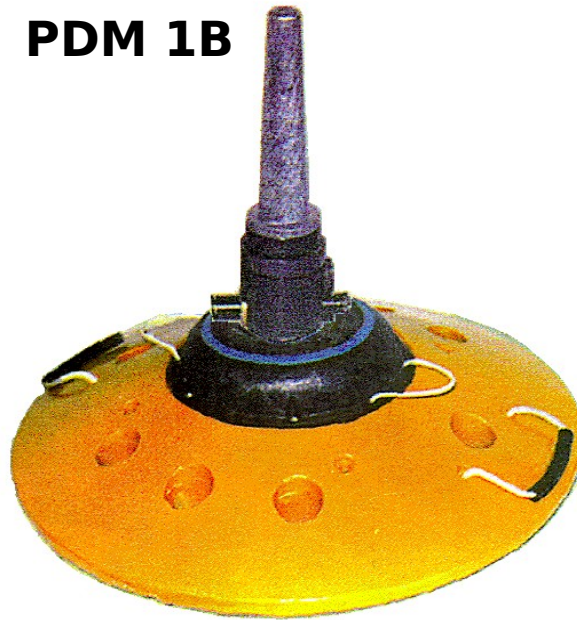


**PDM 1M**



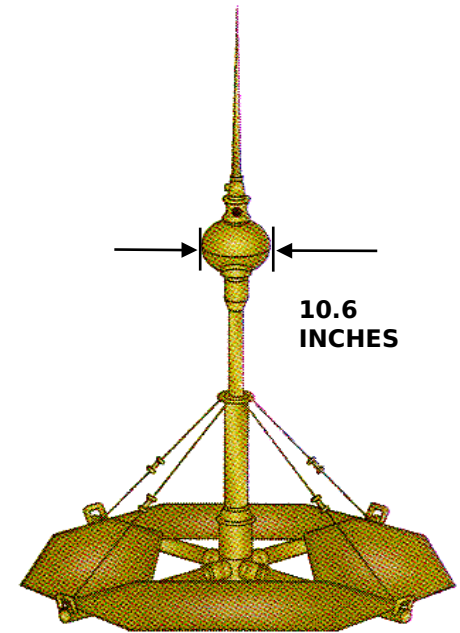
31.5 INCHES  
64 LB (22 LB HE)

**PDM 1B**



31.5 INCHES  
64 LB (22 LB HE)

**PDM 2**



10.6 INCHES

300 LB (33 LB HE)

# Example Beach Zone Mines

**TM 46**



12 INCHES  
18.9 LB (12.5 LB HE)

**TMA- 3**



10.4 INCHES  
14.3 LB (~12 LB HE)

**VS 1.6**



8.8 INCHES  
10 LB (4.8 LB HE)

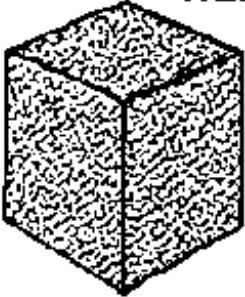
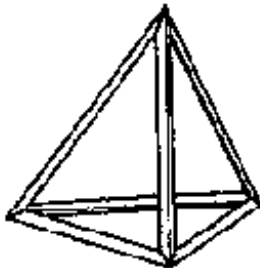
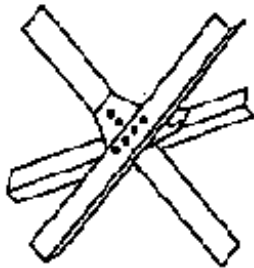
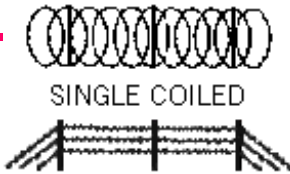
**TM 62**



12.6 INCHES  
18.7 LB (15.9 LB HE)

# Obstacles

**Note: Consider Mines and Lightweight Obstacles ONLY for this BAA**

| HEAVY OBSTACLES                                                                                                                                                                                                                                          |                                                                                                                                                                                              | MEDIUM WEIGHT OBSTACLES                                                                                                                          |                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                         |                                                                                                             |                                                               |                                                                                                                |
| <b>CONCRETE CUBE</b> <ul style="list-style-type: none"><li>- 4X4X4 FT SOLID CUBE</li><li>- 3000 PSI CONCRETE</li><li>- WEIGHT APPROX. 5 TONS</li></ul>                                                                                                   | <b>JERSEY BARRIER</b> <ul style="list-style-type: none"><li>- REINFORCED CONCRETE</li><li>- 12 FOOT LENGTH MINIMUM</li><li>- 2.75 FEET TALL</li></ul>                                        | <b>STEEL TETRAHEDRON</b> <ul style="list-style-type: none"><li>- 4X4X5/8 INCH ANGLE IRON</li><li>- EACH LEG 5 FT LONG</li><li>- WELDED</li></ul> | <b>STEEL HEDGEHOG</b> <ul style="list-style-type: none"><li>- 4X4X3/8 INCH ANGLE IRON</li><li>- EACH LEG 4 FT LONG</li><li>- WELDED OR BOLTED</li></ul>                                           |
| LIGHT WEIGHT OBSTACLES                                                                                                                                                                                                                                   |                                                                                                                                                                                              |                                                                                                                                                  |                                                                                                                                                                                                   |
|                                                                                                                                                                        |                                                                                                           |                                                               |                                                                                                               |
| <b>ENGINEER STAKE JACK</b> <ul style="list-style-type: none"><li>- 6 FT ENGINEER STAKES CROSSED AT 60 DEGREES AND SPOT WELDED</li><li>- 12 FT ENGINEER STAKE SPOT WELDED ON TOP OF CROSSED STAKES</li><li>- 4.3 FT HIGH, 5 FT WIDE, 12 FT LONG</li></ul> | <b>CONCERTINA WIRE</b> <ul style="list-style-type: none"><li>- 36 INCH DIAMETER (EACH ROLL)</li><li>- MOST COMMON AS TRIPLE STANDARD</li><li>- STEEL ENGINEER STAKES EVERY 12.5 FT</li></ul> |                                                                                                                                                  | <b>LOG POSTS</b> <ul style="list-style-type: none"><li>- 30-48 INCHES ABOVE GROUND</li><li>- MIN 16 INCHES IN DIAMETER</li><li>- 5 FT BURIAL</li><li>- HARDWOOD LOGS OR TELEPHONE POLES</li></ul> |